UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,883	12/31/2001	Moses Samson Charikar	0026-0014	4029

44989 7590 11/21/2005

HARRITY & SNYDER, LLP
11240 WAPLES MILL ROAD
SUITE 300
FAIRFAX, VA 22030

EXAMINER	
DODDS, HAROLD E	
ART UNIT	**PAPER NUMBER**
2168	

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/029,883	**Applicant(s)** CHARIKAR, MOSES SAMSON	
	Examiner Harold E. Dodds, Jr.	**Art Unit** 2168	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 27 October 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *See Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-29*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☒ Other: See Continuation Sheet.

GRETA ROBINSON
PRIMARY EXAMINER

Harold E. Dodds, Jr.
Patent Examiner
11/14/05

Continuation of 3. NOTE: The preamble of independent claim 27 has been amended with "implemented by one or more computer processing services" to overcome a 35 U.S.C 101 objection. .

Continuation of 13. Other: Chaudhuri, Dasgupta, Lazarus, and Kaufman render obvious independent claim 1. Chaudhuri teaches "identifying a set of features corresponding to the first object" at col. 4, lines 39-41 and col. 1, lines 60-62, Dasgupta teaches "generating for each feature a hashing vector having n coordinates" at col. 4, lines 26-28, col. 1, lines 60-65, and col. 10, lines 50-53, Lazarus teaches "summing the hashing vectors to obtain a summed vector" at col. 13, lines 6-9, "of the summed vector" at col. 13, lines 6-9, "of the summed vector" at col. 13, lines 6-9, "of the summed vector defining the compact representation of the first object" at col. 13, lines 6-9, col. 9, lines 31-32, and col. 11, lines 4-6, and Kaufman teaches "and creating an n·x-bit representation" at col. 3, lines 42-44, col. 4, lines 51-57, and col. 24, lines 21-27, "by calculating an x-bit value for each coordinate" at col. 27, lines 17-22, col. 24, lines 21-27, and col. 25, lines 29-34, and "the n o x-bit representation" at col. 34, lines 21-27. It would have been obvious to one of ordinary skill at the time of the invention to combine Dasgupta with Chaudhuri to use hashing vectors in order to organize the vectors into groups related to properties to these groups. It would have been obvious to one of ordinary skill at the time of the invention to combine Lazarus with Chaudhuri and Dasgupta to sum vectors in order to use a standard mathematical method of establishing relationships between vectors. It would have been obvious to one of ordinary skill at the time of the invention to combine Kaufman with Chaudhuri, Dasgupta, and Lazarus to use multi-bit representations in order to use standardized computer structures defined in bits to represent vectors. Chaudhuri, Dasgupta, and Caid render obvious independent claims 14, 27, and 28. Chaudhuri teaches "generating a vector corresponding to the object" at col. 20, lines 15-17, col. 8, lines 51-53, and col. 1, lines 60-62, "being associated with a corresponding weight" at col. 20, lines 48-50, and "to generate a product vector" at col. 20, lines 15-17, Dasgupta teaches "each coordinate of the vector" at col. 10, lines 50-53 and "associated with each coordinate in the vector by a corresponding hashing vector" at col. 10, lines 50-53, and Caid teaches "multiplying the weight" at col. 20, lines 17-30, "summing the product vectors to obtain a summed product vector" at col. 36, lines 27-31 and col. 12, lines 26-28, "and generating a compact representation of the object" at col. 14, lines 23-25 and col. 14, lines 40-43, and "using the summed product vectors" at col. 12, lines 26-28. Broder and Hatakeyama render obvious independent claims 22 and 26. Broder teaches "creating a similarity sketch for each of first and second objects" at col. 9, lines 38-39, col. 2, lines 45-47 and col. 4, lines 52-56, "to a vector representation of the first and second objects" at col. 2, lines 53-55, "the similarity sketches for the first and second objects" at col. 2, lines 45-47 and col. 4, lines 52-56, and "and generating a value defining the similarity between the first and second objects" at col. 7, lines 35-37 and col. 4, lines 52-56 and Hatakeyama teaches "based on an application of a hashing function" at col. 21, lines 39-42, "comparing, on a bit-by-bit basis" at col. 15, lines 58-65, and "based on a correspondence in the bit-by-bit comparison" at col. 15, lines 58-65. It would have been obvious to one of ordinary skill at the time of the invention to combine Hatakeyama with Broder to use hashing functions in order to reduce the size of the representation of objects for classification in hash buckets. Likewise, it would have been obvious to one of ordinary skill at the time of the invention to combine Hatakeyama with Broder to use bitwise comparison in order to determine the similarity between the representations of objects. Chaudhuri, Dasgupta, Caid, and Hatakeyama render obvious independent claim 29. Chaudhuri teaches "generating an object vector corresponding to the object" at col. 20, lines 15-17, col. 8, lines 51-53, and col. 1, lines 60-62 and "of the object vector" at col. 1, lines 60-62 and col. 8, lines 51-53, Dasgupta teaches "generating a hashing vector corresponding to each coordinate" at col. 10, lines 50-53 and "corresponding to each coordinate" at col. 10, lines 50-53, Caid teaches "summing the hashing vectors to obtain a summed vector" at col. 36, lines 27-31 and col. 12, lines 26-28, "of the summed product vector" at col. 36, lines 27-31 and col. 12, lines 26-28, and "and generating a compact representation of the object" at col. 14, line 23 and col. 14, lines 40-43, and Hatakeyama teaches "calculating at least one bit" at col. 37, lines 19-22 and "by concatenating the calculated bits" at col. 37, lines 19-22.